



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

M. Pinarbasi

Serial No.: 09/458,581

Filed: 12/09/99

For: SPIN VALVE SENSOR FREE LAYER  
STRUCTURE WITH A COBALT  
BASED LAYER THAT PROMOTES  
MAGNETIC STABILITY AND  
HIGH MAGNETORESISTANCE

Group No.: 1753

Examiner: Rodney McDonald

Docket No. SA998141

#  
9/B  
(A.E.)  
W.M.  
12/18/02

Assistant Commissioner for Patents  
Washington, D.C. 20231

RECEIVED  
DEC 13 2002  
TC 1700

Sir:

AMENDMENT UNDER 37 CFR 1.116

In response to the final Office Action mailed 10/10/2002, please amend the application as follows:

Specification after amendment (see "Attachment" for present amendment)

Last full paragraph under "Example 7" beginning at page 18, line 22 to page 19, line 4:

**Example 7**

Example 1000 in Fig. 25 is the same as the Example 900 in Fig. 23 except the layers 710, 708 and 712 of the free layer structure were obliquely ion beam sputtered at angles  $\alpha = 40^\circ$  and  $\beta = 30^\circ$ . The easy axis and hard axis loops 1020 and 1022 before annealing are shown in Fig. 26A. It can be seen that there is a slight openness in the hard axis loop 1022. Fig. 26B shows an easy axis loop 1030 and a hard axis loop 1032 after annealing at a temperature of  $220^\circ\text{C}$  for a period of 6 hours. It can be seen that there is no openness in the hard axis loop 1032 which means that Barkhausen noise has been eliminated.